

PVM-91CE

SERVICE MANUAL

AEP Model



October, 1982

SPECIFICATIONS

System	CCIR standard
Picture tube	9 inches measured diagonally 90-degree deflection
Resolution	800 lines (horizontal)
Video input	Composite: 0.5 V - 2 V p-p, negative
Sync input	1 V - 8 V p-p, negative
Video/sync input impedance	High impedance for loop-through; 75 ohms terminated
Power requirements	220 V ac, 50 Hz
Power consumption	38 W (max.), 29 W (average)
Dimensions	Approx. 216 x 228.5 x 246.5mm (w/h/d)
Weight	Approx. 6.1 kg

Design and specifications subject to change without notice.



VIDEO MONITOR
SONY®

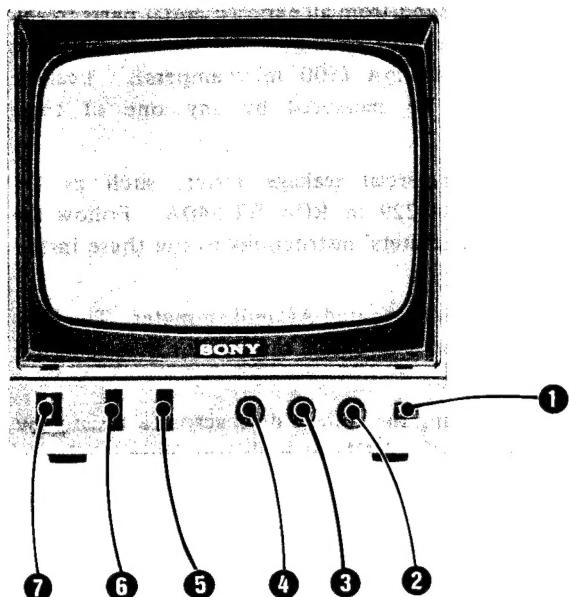
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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

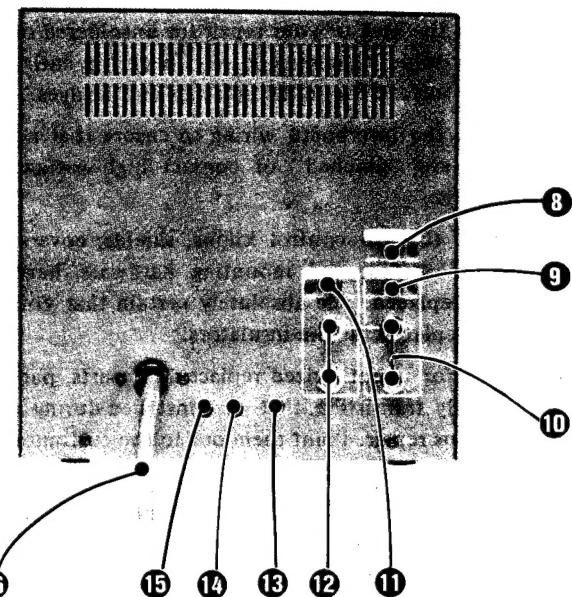
1. GENERAL

LOCATION OF CONTROLS AND CONNECTORS



Front panel

- ① POWER switch
- ② CONTRAST control
- ③ BRIGHT (brightness) control
- ④ V HOLD (vertical hold) control
Adjusts the vertical stability of the picture.
- ⑤ SYNC select switch
INT: when composite video signal is supplied without external sync.
EXT: when an external pulse is supplied from an external sync generator, with either a composite or non-composite video signal.
- ⑥ SCAN select switch
NORMAL: for normal scanning.
UNDER SCAN: for underscanning to display the whole picture contained in the video signal. The display size is reduced by about 10%.
- ⑦ Number label window
When several monitors are used, classify each monitor by inserting one of the supplied labels (1 to 5).



Rear panel

- ⑧ DC CLAMP switch
ON: The video signal is clamped with the pedestal voltage level, so that black level is fixed.
OFF: Black level is not fixed.
- ⑨ SYNC 75-ohm termination switch
ON: When an equipment is not connected to the SYNC OUT connector.
OFF: When an equipment is connected to the SYNC OUT connector.
- ⑩ SYNC IN/OUT connectors (BNC type)
- ⑪ VIDEO 75-ohm termination switch
ON: When the monitor is used singly or is the last of looped chain.
OFF: When another monitor is connected to the VIDEO OUT connector.
- ⑫ VIDEO IN/OUT connectors (BNC type)
- ⑬ FOCUS control
Adjust the picture focus. Use a screwdriver to turn the control.
- ⑭ V LIN (vertical linearity) control
Adjust the vertical dimension of upper or lower part of the picture.
- ⑮ V SIZE (vertical size) control
Adjust the vertical dimension of the whole picture.
- ⑯ AC power cord
Connect to a 220 V ac outlet.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

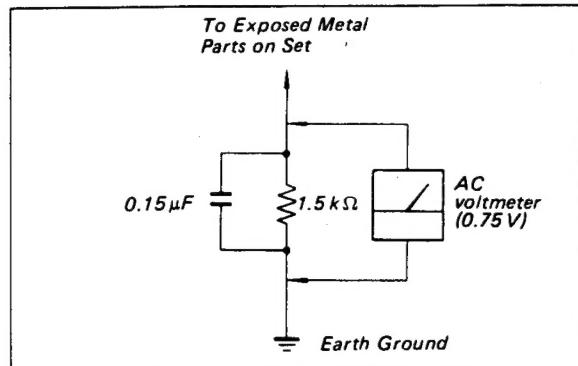


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

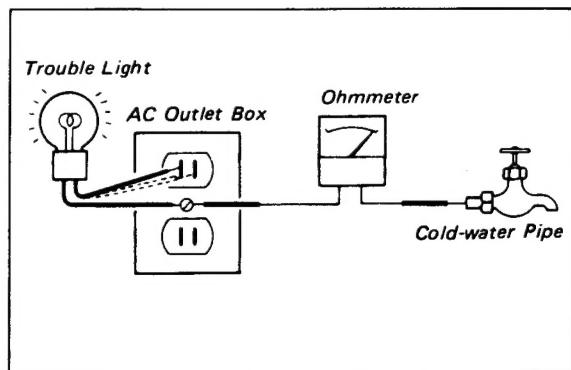
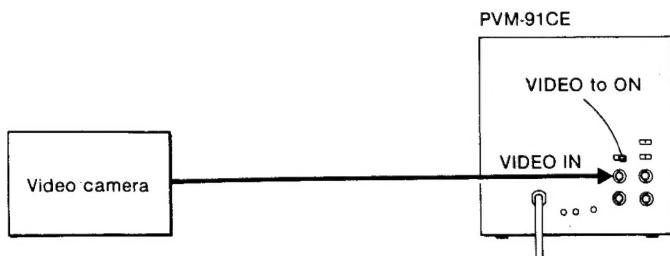


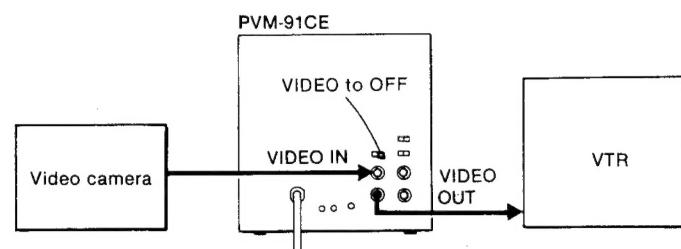
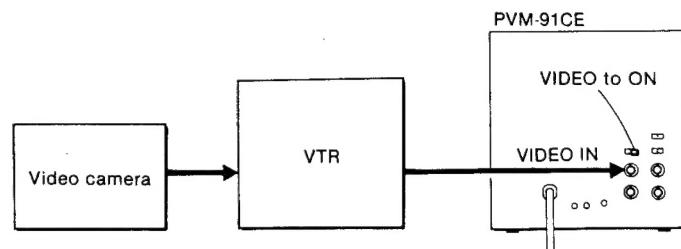
Fig. B. Checking for earth ground.

CONNECTION EXAMPLE

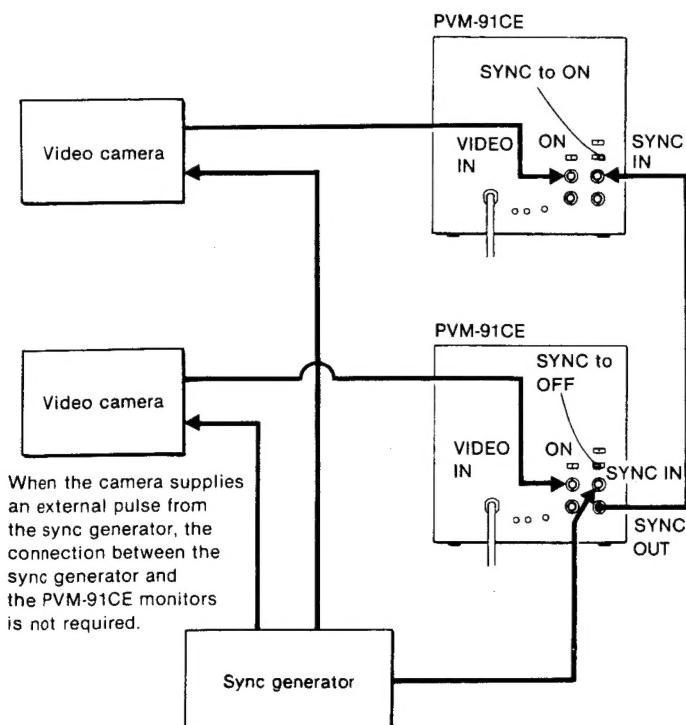
As a video camera monitor



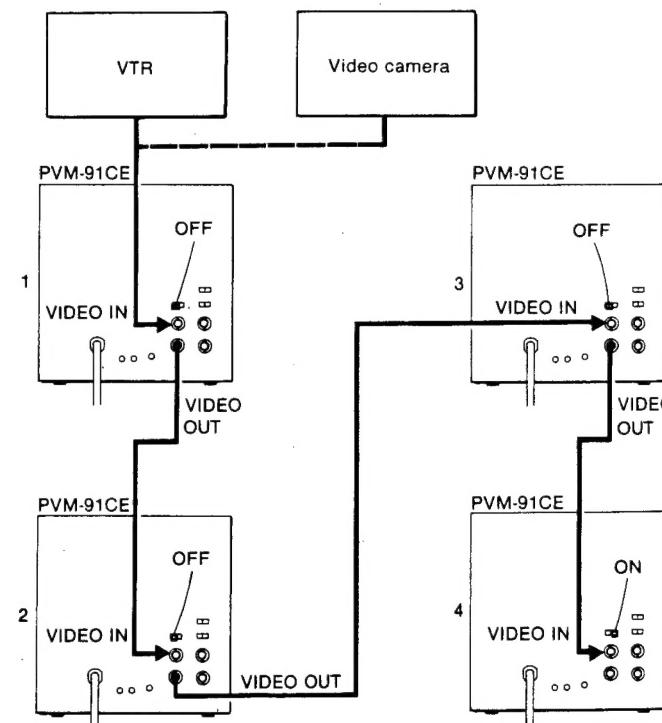
Used with a video camera and a VTR
Either connection is possible.



Used with video cameras and a sync generator



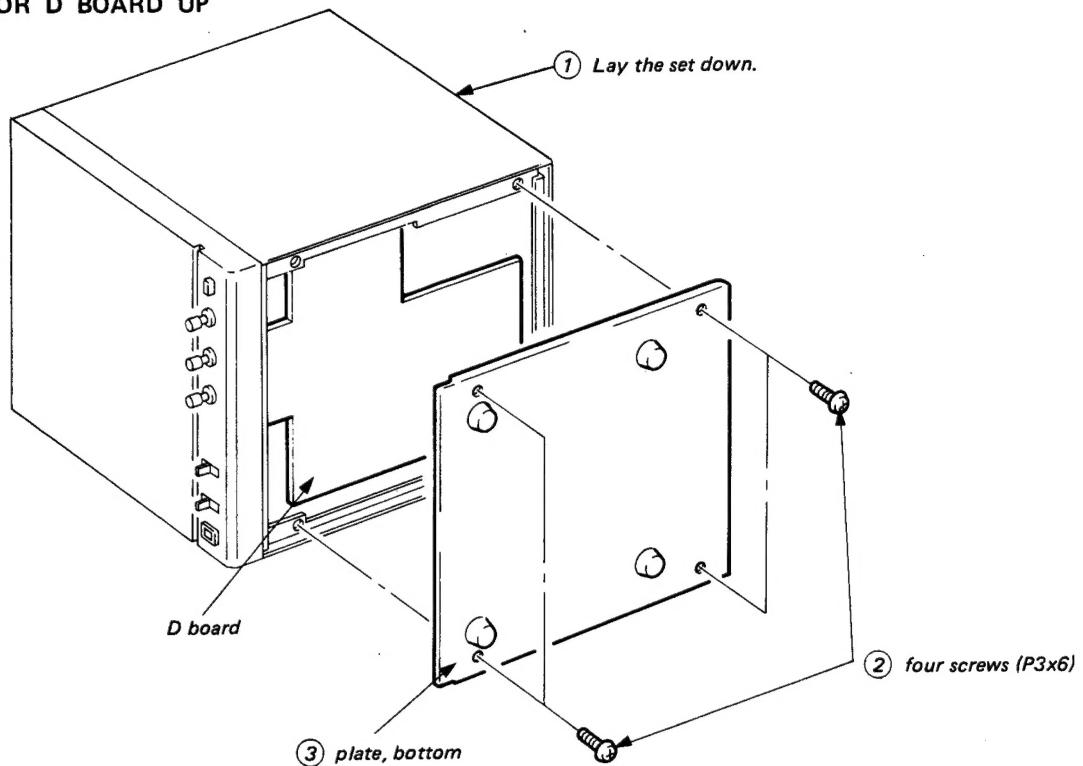
Multiple monitor connection
Up to 10 monitors may be connected.



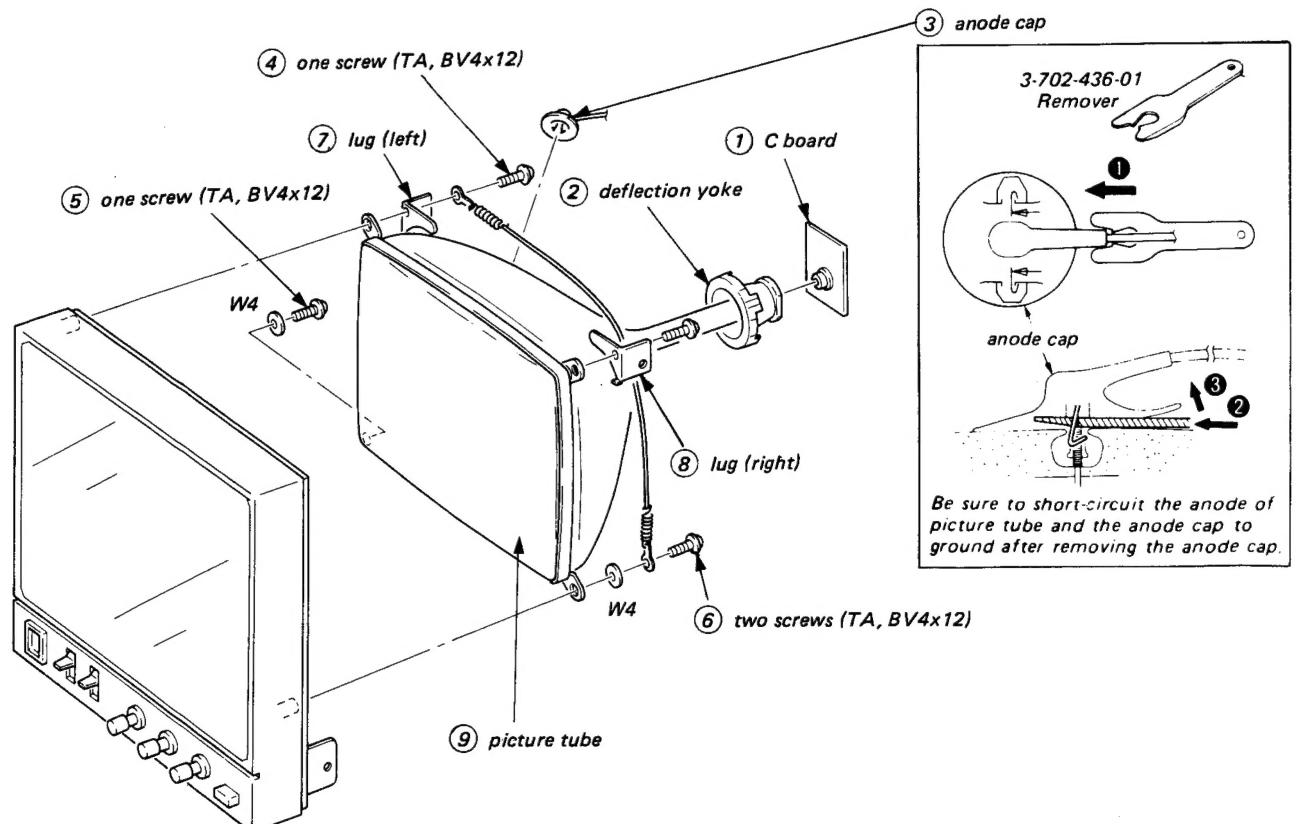
Set the VIDEO switch of the **last monitor** to ON and of the other monitors to OFF.

2. DISASSEMBLY

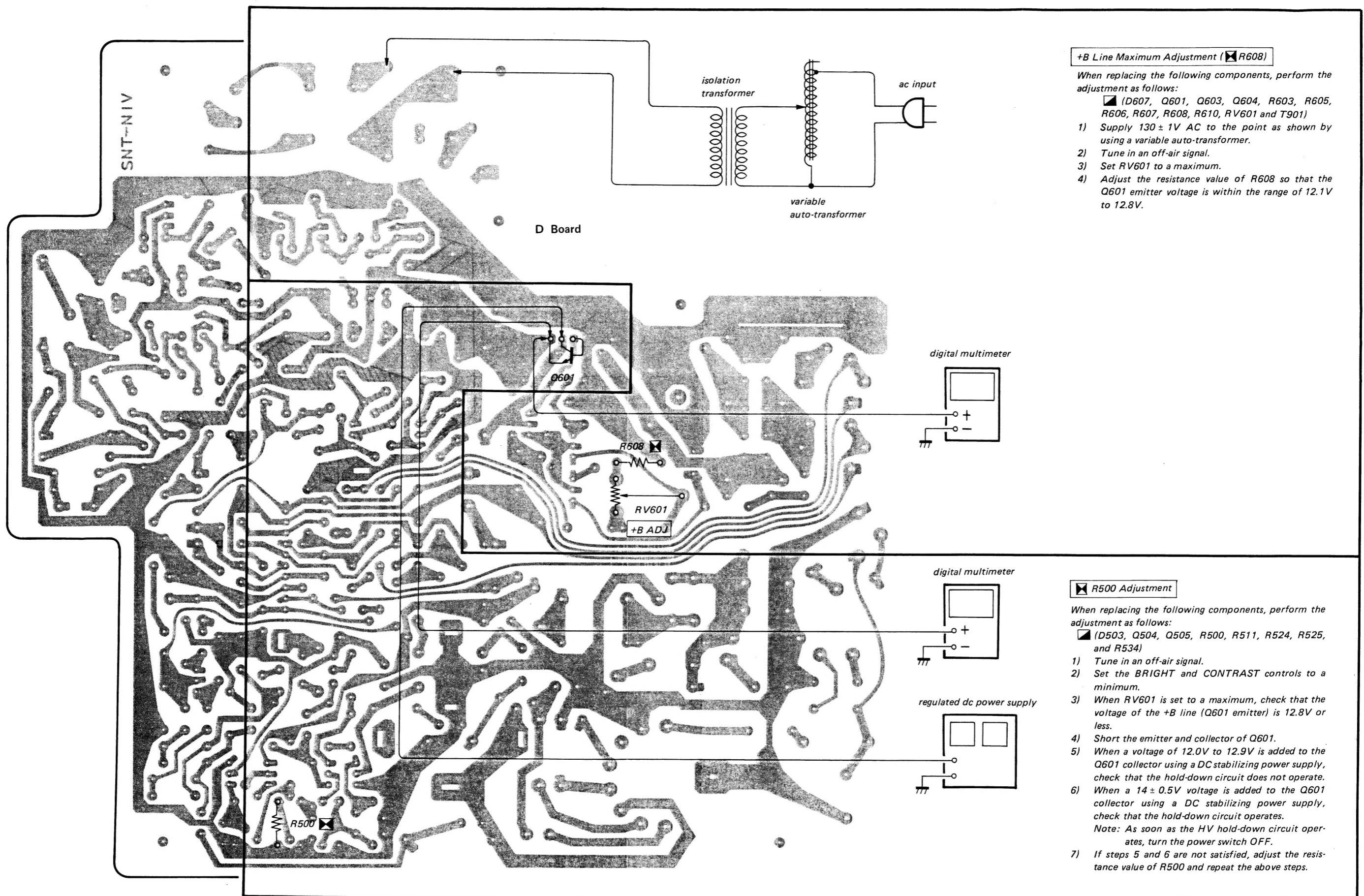
2-1. CHECKING FOR D BOARD UP



2-2. PICTURE TUBE REMOVAL

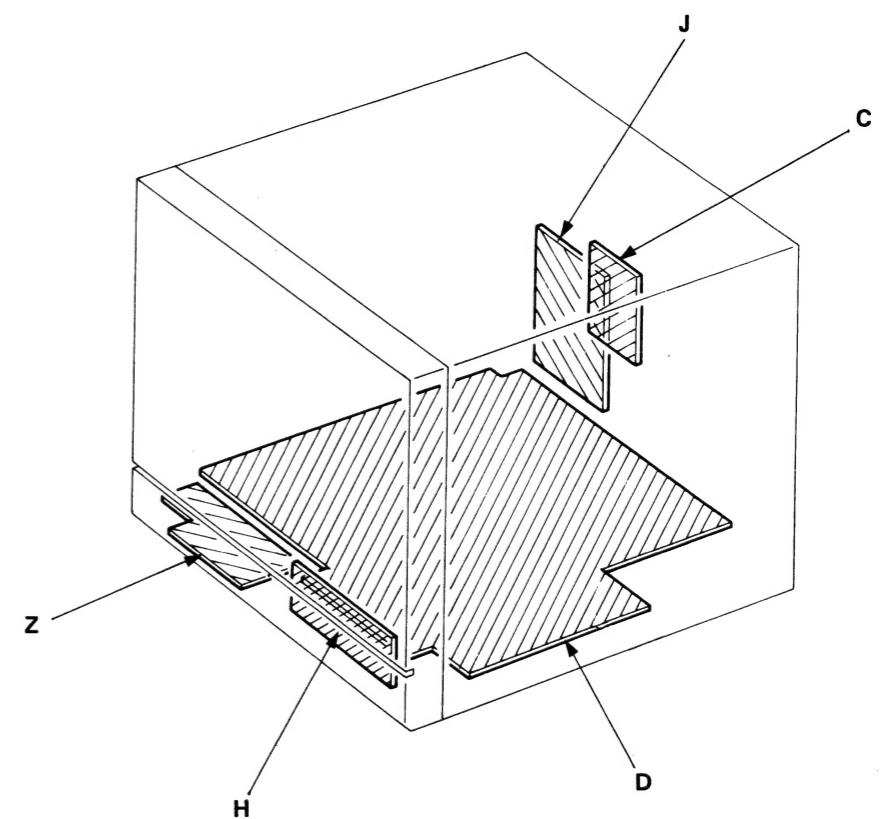


3. SAFETY RELATED ADJUSTMENTS

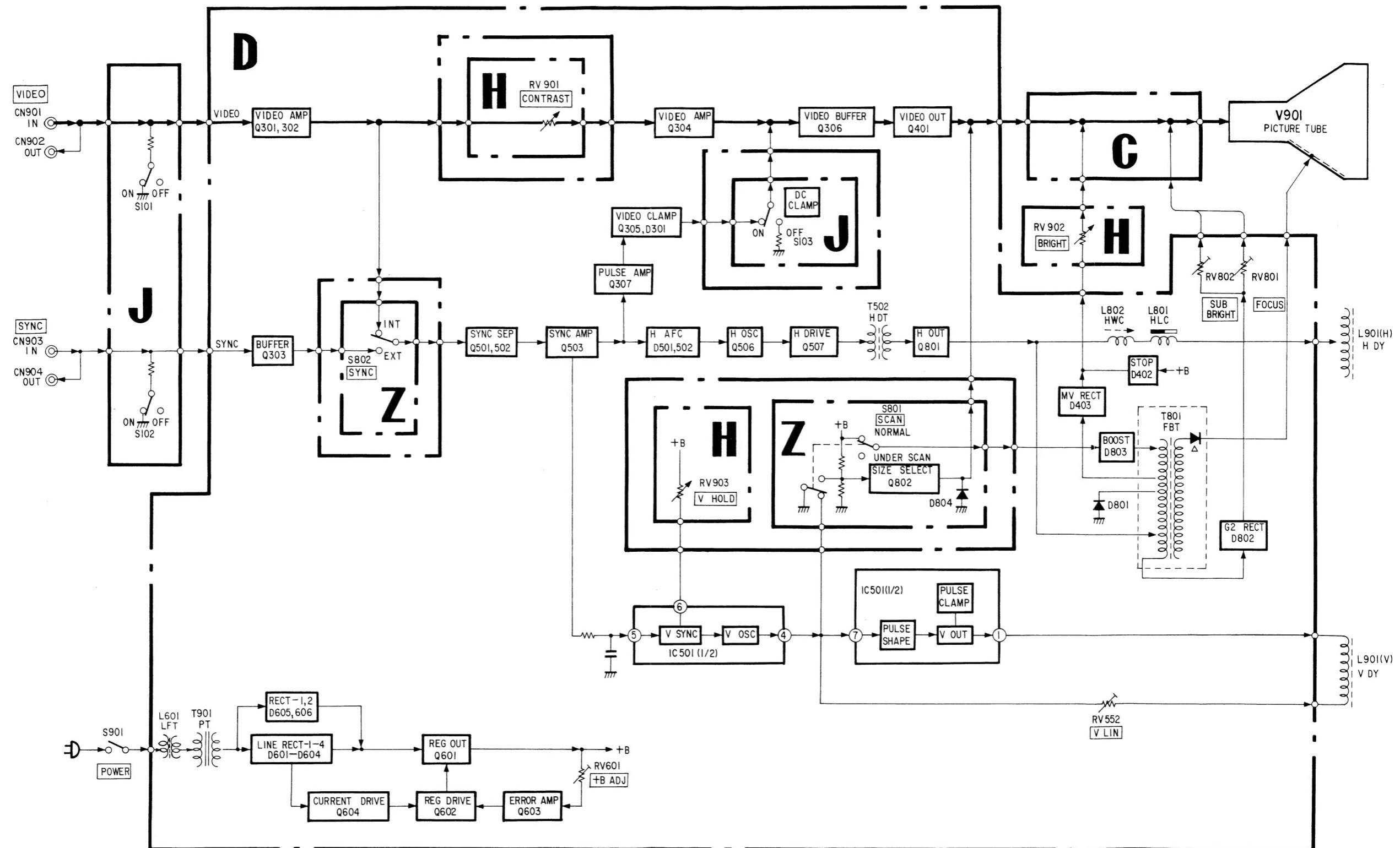


4. DIAGRAMS AND CIRCUIT BOARD LOCATION

CIRCUIT BOARDS LOCATION

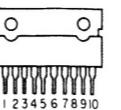


BLOCK DIAGRAM

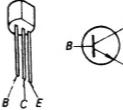


SEMICONDUCTORS

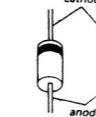
μ PC1031H



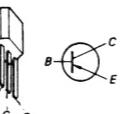
2SD789



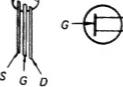
RH-1C



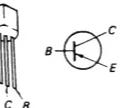
**2SA1015
2SA1026**



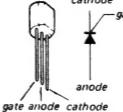
2SK30A



2SA733



**CR02AM-4
CR02AM-8**



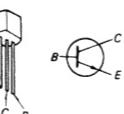
2SC1475

2SC1811

2SC1815

2SC2603

2SC945



1S1555

1S1585

1S2076

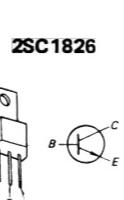
1S2473

1SS133

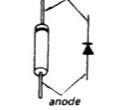
1SS148

RD13E-L2

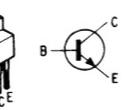
RD5.6E-L3



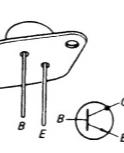
2SC1826



2SC2373



2SC901A



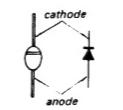
GU-3SY

U05E

U05G

V06C

V09C



SCHEMATIC DIAGRAM

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

- All capacitors are in μ F unless otherwise noted. pF: $\mu\mu$ F 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}$ W unless otherwise noted. $k\Omega = 1000\Omega$, $M\Omega = 1000k\Omega$
- : nonflammable resistor.
- : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.

When replacing the part in below table, be sure to perform the related adjustment.

Part replaced ()	Adjustment ()
D503, D607, Q504, Q505, Q601, Q603, Q604, R500, R511, R524, R525, R534, R603, R605, R606, R607, R608, R610, RV601, T901	R500 R608 adjustment

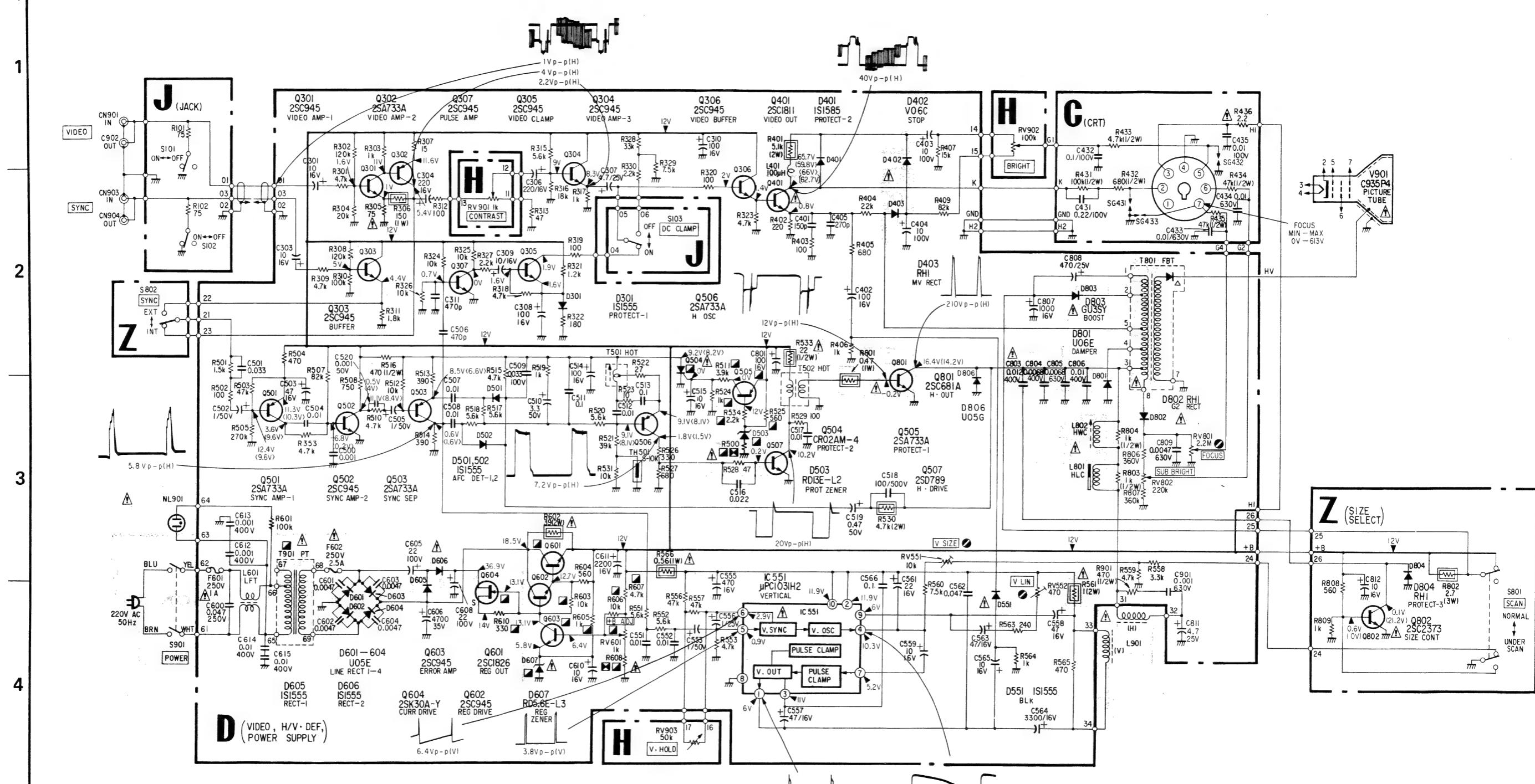
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a $10M\Omega$ digital multimeter.
- : adjustable without removing cabinet.
- : adjustment for repair.
- Voltage variations may be noted due to normal production tolerances.
- : B + bus.

C D H J Z

A

8

1



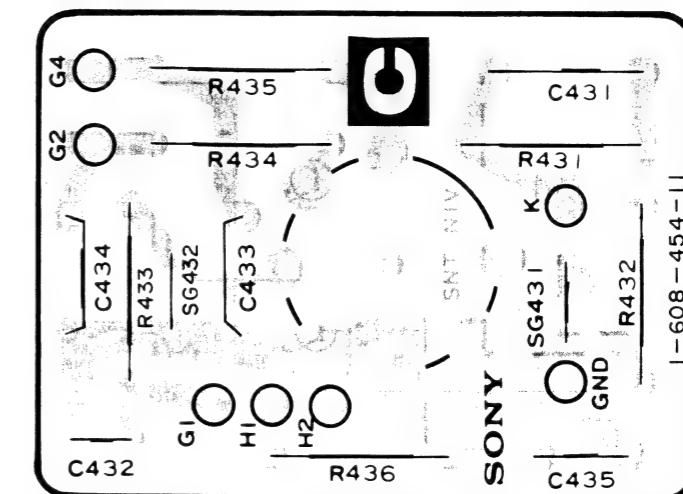
PRINTED WIRING BOARD

D C H

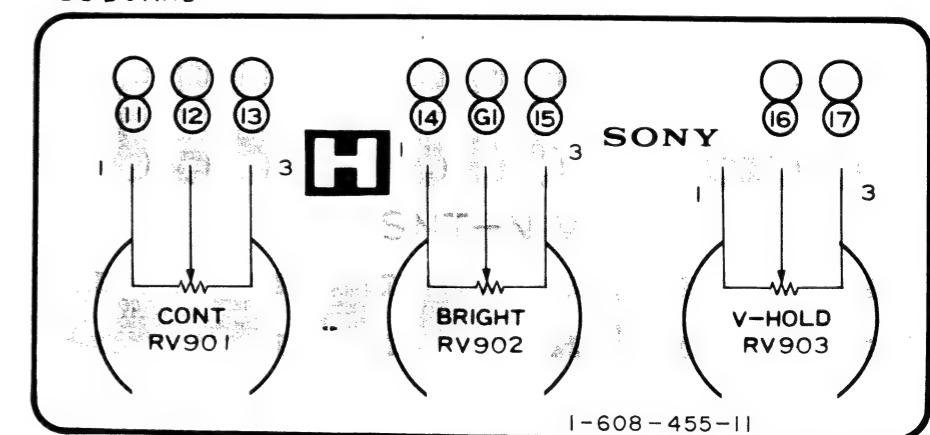
A | B | C | D | E | F | G |

Q I C	505 504 506 507 801	503	IC 551	604	502 501 603 602	307	401	306 305	302 304 303 301	Q I C
D	503 501,502 801 803 802	806	606,605	403 551 603 604	402 401 607	601	602	301		D
ADJ		RV802	RV801	RV601	RV552	RV551				ADJ

C BOARD



H BOARD



J Z

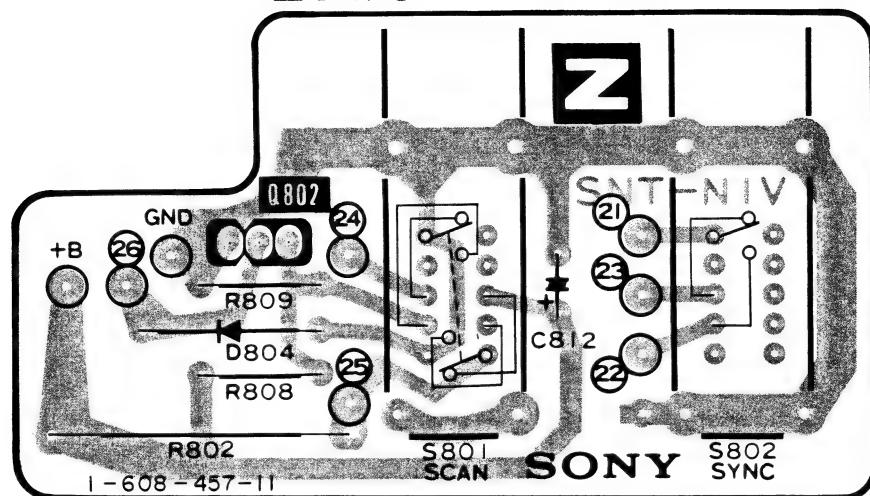
A

B

C

Z BOARD

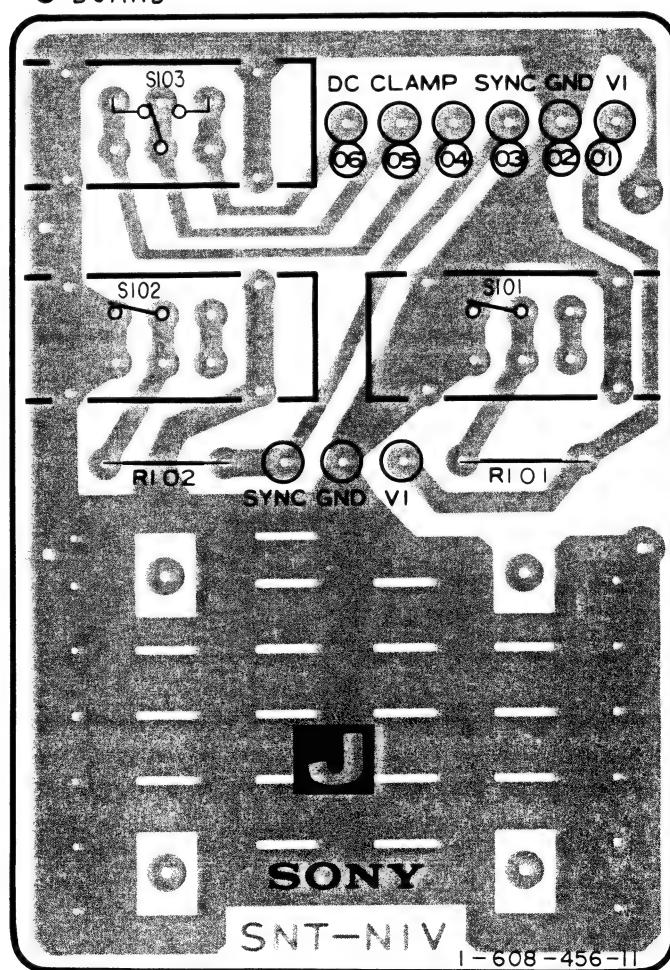
1



2

J BOARD

3



4

5

5. EXPLODED VIEWS

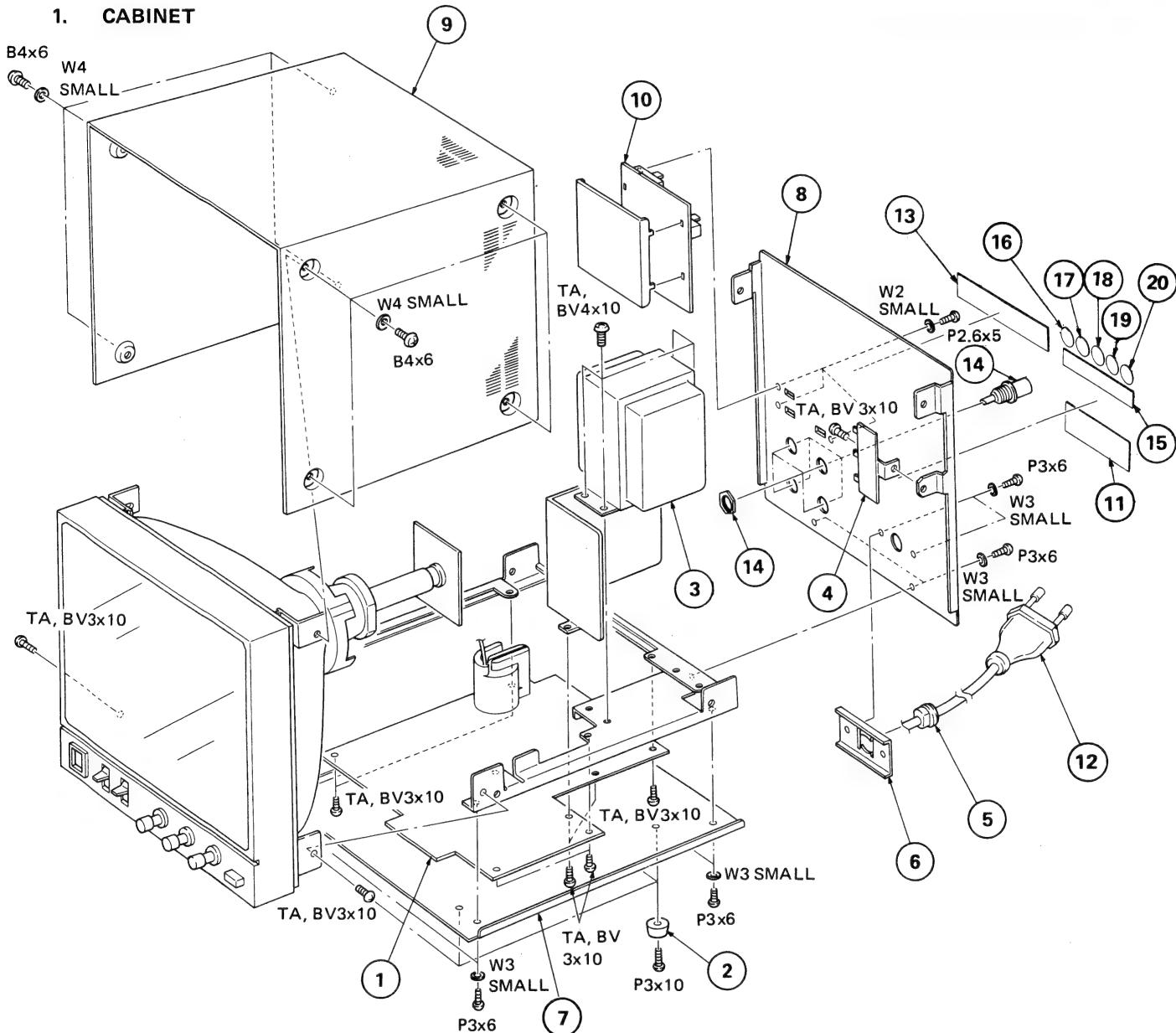
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

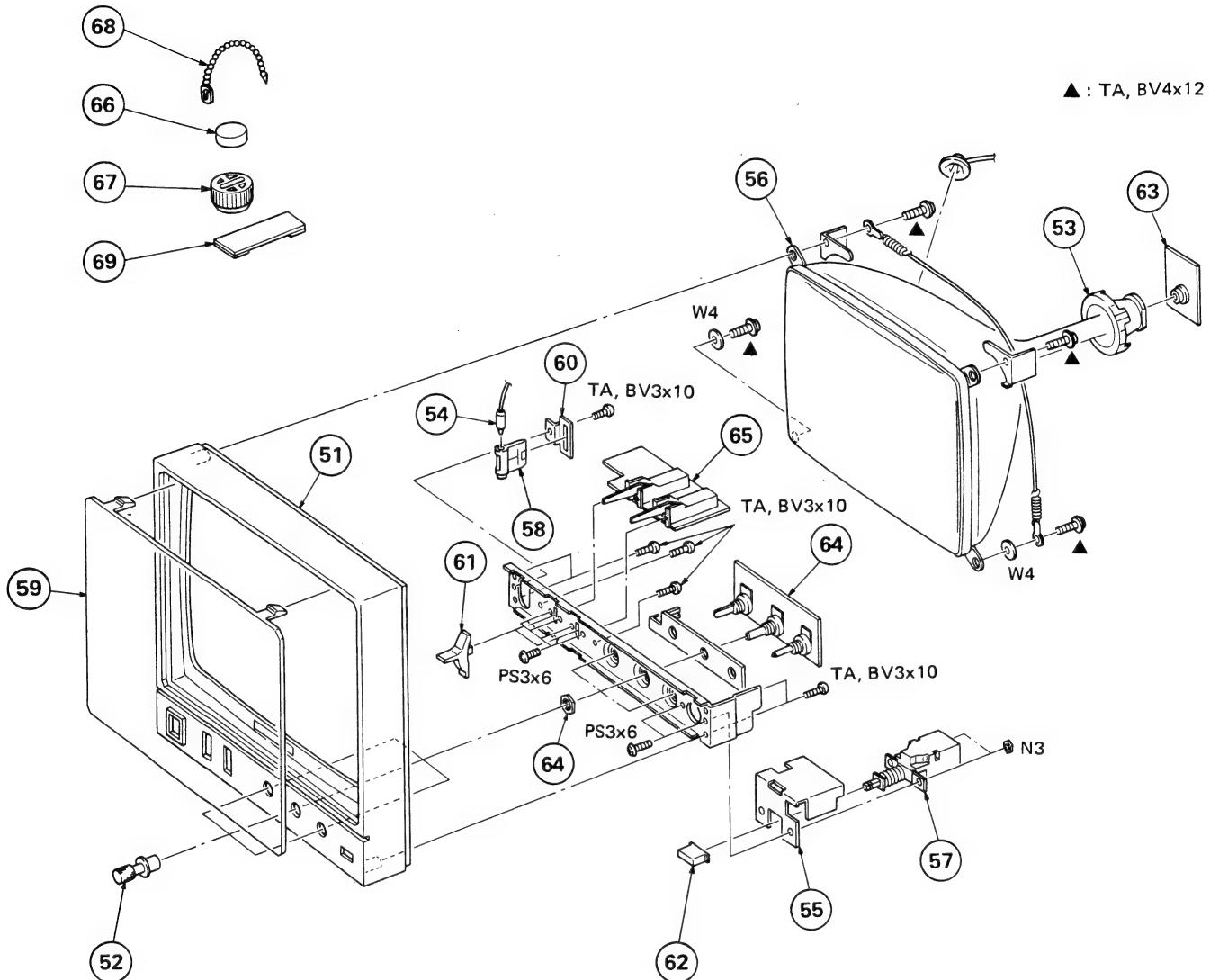
The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

1. CABINET



No.	Part No	Description	Remark	No.	Part No	Description	Remark
1	● :A-1340-485-A	D MOUNTED		11	● :4-027-219-00	LABEL, MODEL NUMBER (LARGE)	
2	X-4861-312-0	FOOT ASSY, MF		12	△ .1-534-820-XX	POWER CORD	
3	△ .1-447-427-00	TRANSFORMER, POWER: PT		13	● :3-703-058-00	LABEL, PTB EXEMPTION	
4	1-536-392-XX	L-TYPE TERMINAL STRIP		14	1-561-167-00	CONNECTOR	
5	△ .3-005-073-00	BUSHING		15	3-703-057-00	LABEL, PTB EXEMPTION	
6	● :4-025-821-00	HOLDER, BUSHING (CE)		16	3-703-269-00	LABEL, SEV	
7	● :4-027-213-00	PLATE, BOTTOM		17	3-703-274-00	LABEL, APPROVAL	
8	4-027-214-00	PANEL, REAR		18	4-310-379-00	LABEL, NEMKO	
9	4-027-217-00	CABINET		19	4-310-380-00	LABEL, DEMKO	
10	● :1-608-456-00	J BOARD		20	4-310-381-00	LABEL, SEMKO	

2. BEZEL



No.	Part No	Description	Remark	No.	Part No	Description	Remark
51	X-4027-202-0	BEZEL ASSY		61	4-335-954-02	KNOB (2P), LEVER SWITCH	
52	X-4316-209-0	KNOB ASSY, CONTROL		62	4-335-962-00	PUSH BUTTON	
53 ▲	1-451-216-21	DEFLECTION YOKE		63	▲ : 1-608-454-00	C BPARD	
54	1-519-108-XX	NEON LAMP ASSY		64	▲ : 1-608-455-00	H BOARD	
55	▲ : 4-027-218-00	BARRIER		65	▲ : 1-608-457-00	Z BOARD	
56 ▲	1-546-046-00	CATHODE-RAY TUBE (B/W)		66	1-452-032-00	MAGNET, DISK; 10MM Ø	
57 ▲	1-553-330-00	SWITCH, PUSH (POWER)		67	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
58	▲ : 4-027-202-00	HOLDER, LAMP		68	4-308-870-00	CLIP, LEAD WIRE	
59	4-027-212-00	FILTER		69	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
60	▲ : 4-308-211-00	HOLDER, NEON LAMP					

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

C D

NOTE:

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

\bullet \Rightarrow : Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

6. ELECTRICAL PARTS LIST

- Items marked " \bullet " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS

• MF : μ F, PF : $\mu\mu$ F

RESISTORS

• All resistors are in ohms

• F : nonflammable

COILS

• MMH : mH, UH : μ H

When indicating parts by reference number, please include the board name.

Ref.No	Part No	Description				Remark	Ref.No	Part No	Description				Remark
\bullet	1-608-454-00	C BOARD	*****				C511	1-108-849-00	MYLAR	0.1MF	10%	50V	
							C512	1-108-837-00	MYLAR	0.01MF	10%	50V	
		1-526-521-XX	SOCKET, ELECTRONIC TUBE				C513	1-108-849-00	MYLAR	0.1MF	10%	50V	
		<u>CAPACITOR</u>					C514	1-123-333-00	ELECT	100MF	20%	16V	
C431	1-108-393-00	MYLAR	0.22MF	10%	100V		C515	1-123-356-00	ELECT	10MF	20%	16V	
C432	1-108-389-00	MYLAR	0.1MF	10%	100V		C516	1-108-242-00	MYLAR	0.022MF	10%	50V	
C433	1-129-714-00	FILM	0.01MF	10%	630V		C517	1-108-837-00	MYLAR	0.01MF	10%	50V	
C434	1-129-714-00	FILM	0.01MF	10%	630V		C518	1-101-810-00	CERAMIC	100PF	5%	500V	
C435	1-108-377-00	MYLAR	0.01MF	10%	100V		C519	1-123-379-00	ELECT	0.47MF	20%	50V	
		<u>RESISTOR</u>					C520	1-108-227-00	MYLAR	0.001MF	10%	50V	
R431	1-202-621-00	COMPOSITION	100K	5%	1/2W		C551	1-108-837-00	MYLAR	0.01MF	10%	50V	
R432	1-202-569-00	COMPOSITION	680	5%	1/2W		C552	1-108-837-00	MYLAR	0.01MF	10%	50V	
R433	1-202-589-00	COMPOSITION	4.7K	5%	1/2W		C553	1-123-380-00	ELECT	1MF	20%	50V	
R434	1-202-613-00	COMPOSITION	47K	5%	1/2W		C555	1-123-323-00	ELECT	470MF	20%	16V	
R435	1-202-613-00	COMPOSITION	47K	5%	1/2W		C556	1-131-498-51	TANTALUM	1MF	20%	25V	
R436	Δ 1-202-309-35	COMPOSITION	2.2	10%	1/4W		C557	1-123-332-00	ELECT	47MF	20%	16V	
		<u>SPARK GAP</u>					C558	1-123-332-00	ELECT	47MF	20%	16V	
SG431	1-519-063-XX	DISCHARGING GAP					C559	1-131-371-00	TANTALUM	10MF	20%	16V	
SG432	1-519-063-XX	DISCHARGING GAP					C561	1-131-371-00	TANTALUM	10MF	20%	16V	
SG433	1-519-063-XX	DISCHARGING GAP					C562	1-108-845-00	MYLAR	0.047MF	10%	50V	

\bullet	A-1340-485-A	D BOARD, COMPLETE	*****				C601	1-101-006-00	CERAMIC	0.047MF	50V		
							C602	1-101-006-00	CERAMIC	0.047MF	50V		
		<u>CAPACITOR</u>					C603	1-101-006-00	CERAMIC	0.047MF	50V		
C301	1-123-356-00	ELECT	10MF	20%	16V		C604	1-101-006-00	CERAMIC	0.047MF	50V		
C303	1-123-356-00	ELECT	10MF	20%	16V		C605	1-123-385-00	ELECT	22MF	20%	100V	
C304	1-123-321-00	ELECT	220MF	20%	16V		C606	1-123-738-00	ELECT	4700MF	20%	35V	
C306	1-123-321-00	ELECT	220MF	20%	16V		C608	1-123-385-00	ELECT	22MF	20%	100V	
C307	1-123-328-00	ELECT	4.7MF	20%	25V		C610	1-123-356-00	ELECT	10MF	20%	16V	
C308	1-123-333-00	ELECT	100MF	20%	16V		C611	1-123-325-00	ELECT	2200MF	20%	16V	
C309	1-123-356-00	ELECT	10MF	20%	16V		C612	1-161-737-00	CERAMIC	0.001MF	20%	400V	
C310	1-123-333-00	ELECT	100MF	20%	16V		C613	1-161-737-00	CERAMIC	0.001MF	20%	400V	
C311	1-102-836-00	CERAMIC	470PF	10%	50V		C614	1-161-737-00	CERAMIC	0.01MF	20%	400V	
C401	1-102-108-00	CERAMIC	150PF	10%	50V		C615	1-161-737-00	CERAMIC	0.01MF	20%	400V	
C402	1-123-333-00	ELECT	100MF	20%	16V		C801	1-123-333-00	ELECT	100MF	20%	16V	
C403	1-123-384-00	ELECT	10MF	20%	100V		C803 Δ	1-130-951-00	FILM	0.012MF	3%	400V	
C404	1-123-384-00	ELECT	10MF	20%	100V		C804 Δ	1-130-953-00	FILM	0.0068MF	3%	400V	
C405	1-102-111-00	CERAMIC	270PF	10%	50V		C805 Δ	1-129-712-00	FILM	0.0068MF	10%	630V	
C500	1-108-227-00	MYLAR	0.001MF	10%	50V		C806 Δ	1-130-951-00	FILM	0.012MF	3%	400V	
C501	1-108-244-00	MYLAR	0.033MF	10%	50V		C807	1-123-324-00	ELECT	1000MF	20%	16V	
C502	1-123-380-00	ELECT	1MF	20%	50V		C808	1-123-989-00	ELECT	470MF	20%	25V	
C503	1-123-332-00	ELECT	47MF	20%	16V		C809	1-129-710-00	FILM	0.0047MF	10%	630V	
C504	1-108-837-00	MYLAR	0.01MF	10%	50V		C811	1-123-908-00	ELECT	4.7MF	20%	25V	
C505	1-123-380-00	ELECT	1MF	20%	50V		C901	1-129-702-00	FILM	0.001MF	10%	630V	
<u>DIODE</u>													
C506	1-102-836-00	CERAMIC	470PF	10%	50V		D301	=>8-719-911-19	DIODE	ISS119			
C507	1-108-837-00	MYLAR	0.01MF	10%	50V		D401	8-719-815-85	DIODE	I1585			
C508	1-108-837-00	MYLAR	0.01MF	10%	50V		D402 Δ	8-719-900-63	DIODE	V06C			
C509	1-108-383-00	MYLAR	0.033MF	10%	100V		D403 Δ	8-719-300-74	DIODE	RH1			
C510	1-123-382-00	ELECT	3.3MF	20%	50V		D501	=>8-719-911-19	DIODE	ISS119			

D

Ref. No	Part No	Description	Remark	Ref. No	Part No	Description	Remark
D502 =>8-719-911-19	DIODE ISS119			R301	1-246-489-00	CARBON	4.7K 5% 1/4W
D503 =>8-719-101-86	DIODE RD13E-L2			R302	1-246-523-00	CARBON	120K 5% 1/4W
D551 Δ .8-719-815-55	DIODE 1S1555			R303	1-246-473-00	CARBON	1K 5% 1/4W
D601 Δ .8-719-911-54	DIODE U05E			R304	1-246-504-00	CARBON	20K 5% 1/4W
D602 Δ .8-719-911-54	DIODE U05E			R305 Δ .	1-246-446-00	CARBON	75 5% 1/4W
D603 Δ .8-719-911-54	DIODE U05E			R306	1-213-133-00	METAL	150 5% 1W F
D604 Δ .8-719-911-54	DIODE U05E			R307	1-246-429-00	CARBON	15 5% 1/4W
D605 Δ .8-719-815-55	DIODE 1S1555			R308	1-246-523-00	CARBON	120K 5% 1/4W
D606 Δ .8-719-815-55	DIODE 1S1555			R309	1-246-489-00	CARBON	4.7K 5% 1/4W
D607 Δ .8-719-101-59	DIODE RD5.6E-L3			R310	1-246-521-00	CARBON	100K 5% 1/4W
D801 =>8-719-911-55	DIODE U05G			R311	1-246-479-00	CARBON	1.8K 5% 1/4W
D802 Δ .8-719-300-76	DIODE RH1			R312	1-246-449-00	CARBON	100 5% 1/4W
D803 Δ .8-719-300-00	DIODE GU3SY			R313	1-246-441-00	CARBON	47 5% 1/4W
D806 8-719-911-55	DIODE U05G			R315	1-246-491-00	CARBON	5.6K 5% 1/4W
<u>FUSE</u>				R316	1-246-503-00	CARBON	18K 5% 1/4W
F601 Δ .1-532-078-00	FUSE, TIME-LAG: 250V 1A			R317	1-246-473-00	CARBON	1K 5% 1/4W
Δ :1-533-087-00	HOLDER, FUSE (F601)			R318	1-246-489-00	CARBON	4.7K 5% 1/4W
F602 Δ .1-532-286-00	FUSE, TIME-LAG: 250V 2.5A			R319	1-246-449-00	CARBON	100 5% 1/4W
Δ :1-533-087-00	HOLDER, FUSE (F602)			R320	1-246-449-00	CARBON	100 5% 1/4W
<u>IC</u>				R321	1-246-475-00	CARBON	1.2K 5% 1/4W
IC551 Δ .8-759-110-31	IC UPC1031H2			R322	1-246-455-00	CARBON	180 5% 1/4W
<u>COIL</u>				R323	1-246-489-00	CARBON	4.7K 5% 1/4W
L401 Δ 1-407-705-00	MICRO INDUCTOR 100UH			R324	1-246-497-00	CARBON	10K 5% 1/4W
L601 1-441-855-00	TRANSFORMER, HEATER INSULATION: LFT			R325	1-246-497-00	CARBON	10K 5% 1/4W
L801 Δ 1-459-427-00	COIL, HORIZONTAL LINEARITY, HLC			R326	1-246-497-00	CARBON	10K 5% 1/4W
L802 Δ 1-459-330-12	RES, VAR (HWC)			R327	1-246-481-00	CARBON	2.2K 5% 1/4W
<u>TRANSISTOR</u>				R328	1-246-509-00	CARBON	33K 5% 1/4W
Q301 =>8-729-606-32	TRANSISTOR 2SC2603			R329	1-246-494-00	CARBON	7.5K 5% 1/4W
Q302 =>8-729-201-52	TRANSISTOR 2SA1015			R330	1-246-481-00	CARBON	2.2K 5% 1/4W
Q303 =>8-729-606-32	TRANSISTOR 2SC2603			R401 Δ .	1-206-681-00	METAL	5.1K 5% 2W F
Q304 =>8-729-606-32	TRANSISTOR 2SC2603			R402	1-246-457-00	CARBON	220 5% 1/4W
Q305 =>8-729-606-32	TRANSISTOR 2SC2603			R403	1-246-449-00	CARBON	100 5% 1/4W
Q306 =>8-729-606-32	TRANSISTOR 2SC2603			R404	1-246-505-00	CARBON	22K 5% 1/4W
Q307 =>8-729-606-32	TRANSISTOR 2SC2603			R405	1-246-469-00	CARBON	680 5% 1/4W
Q401 Δ .8-765-012-20	TRANSISTOR 2SC1811			R406	1-246-473-00	CARBON	1K 5% 1/4W
Q501 =>8-729-201-52	TRANSISTOR 2SA1015			R407	1-246-501-00	CARBON	15K 5% 1/4W
Q502 =>8-729-606-32	TRANSISTOR 2SC2603			R409	1-246-519-00	CARBON	82K 5% 1/4W
Q503 =>8-729-201-52	TRANSISTOR 2SA1015			R500 Δ .	1-246-477-00	CARBON	1.5K 5% 1/4W
Q504 Δ .8-719-000-24	THYRISTOR CRO2AM-4			R501	1-246-477-00	CARBON	100 5% 1/4W
Q505 =>8-729-201-52	TRANSISTOR 2SA1015			R502	1-246-449-00	CARBON	1.5K 5% 1/4W
Q506 =>8-729-201-52	TRANSISTOR 2SA1015			R503	1-246-513-00	CARBON	47K 5% 1/4W
Q507 Δ .8-729-378-43	TRANSISTOR 2SD789			R504	1-246-465-00	CARBON	470 5% 1/4W
Q601 Δ .8-729-382-63	TRANSISTOR 2SC1826			R505	1-246-531-00	CARBON	270K 5% 1/4W
Q602 Δ .8-729-194-56	TRANSISTOR 2SC945			R506	1-246-483-00	CARBON	2.7K 5% 1/4W
Q603 =>8-729-606-32	TRANSISTOR 2SC2603			R507	1-246-519-00	CARBON	82K 5% 1/4W
Q604 Δ .8-729-203-02	TRANSISTOR 2SK30A			R508	1-246-470-00	CARBON	750 5% 1/4W
Q801 Δ .1-806-308-00	TRANSISTOR 2SC681A			R509	1-246-499-00	CARBON	12K 5% 1/4W
				R510	1-246-473-00	CARBON	1K 5% 1/4W
				R511	1-246-487-00	CARBON	3.9K 5% 1/4W
				R512	1-246-497-00	CARBON	10K 5% 1/4W
				R513	1-246-463-00	CARBON	390 5% 1/4W

When indicating parts by reference number, please include the board name.

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The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

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Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
R514	1-246-463-00	CARBON	390 5% 1/4W				<u>TRANSFORMER</u>
R515	1-246-489-00	CARBON	4.7K 5% 1/4W		T501	1-405-760-00	COIL, OSC: HOT
R516	1-244-865-00	CARBON	470 5% 1/2W		T502	1-437-021-00	TRANSFORMER, HORIZONTAL DRIVE: HDT
R517	1-246-491-00	CARBON	5.6K 5% 1/4W		T801▲	1-439-298-00	TRANSFORMER ASSY, FLYBACK: FBT
R518	1-246-491-00	CARBON	5.6K 5% 1/4W				
R519	1-246-473-00	CARBON	1K 5% 1/4W				<u>THERMISTOR</u>
R520	1-246-491-00	CARBON	5.6K 5% 1/4W		TH501	1-800-202-XX	THERMISTOR S-10K
R521	1-246-511-00	CARBON	39K 5% 1/4W				*****
R522	1-246-435-00	CARBON	27 5% 1/4W				
R523	1-246-425-00	CARBON	10 5% 1/4W				
R524	1-246-473-00	CARBON	1K 5% 1/4W		▲:1-608-455-00	H.BORD	*****
R525	1-246-467-00	CARBON	560 5% 1/4W				
R526	1-246-461-00	CARBON	330 5% 1/4W				
R527	1-246-469-00	CARBON	680 5% 1/4W				
R528▲	1-246-441-00	CARBON	47 5% 1/4W				
R529	1-246-449-00	CARBON	100 5% 1/4W		RV901	1-228-771-00	RES, VAR, CARBON 1K
R530	1-206-680-00	METAL	4.7K 5% 2W F		RV902	1-228-773-00	RES, VAR, CARBON 100K
R531	1-246-497-00	CARBON	10K 5% 1/4W		RV903	1-228-772-00	RES, VAR, CARBON 50K
R533▲	1-211-598-00	CARBON	22 5% 1/2W F				*****
R534	1-246-481-00	CARBON	2.2K 5% 1/4W		▲:1-608-456-00	J BOARD	*****
R535	1-246-489-00	CARBON	4.7K 5% 1/4W				
R551	1-246-491-00	CARBON	5.6K 5% 1/4W				<u>RESISTOR</u>
R552	1-246-491-00	CARBON	5.6K 5% 1/4W		R101	1-246-446-00	CARBON 75 5% 1/4W
R553	1-246-489-00	CARBON	4.7K 5% 1/4W		R102	1-246-446-00	CARBON 75 5% 1/4W
R556	1-246-513-00	CARBON	47K 5% 1/4W				
R557	1-246-513-00	CARBON	47K 5% 1/4W				
R558	1-246-485-00	CARBON	3.3K 5% 1/4W				<u>SWITCH</u>
R559	1-246-489-00	CARBON	4.7K 5% 1/4W		S101	1-516-576-00	SLIDE SWITCH
R560	1-246-494-00	CARBON	7.5K 5% 1/4W		S102	1-516-576-00	SLIDE SWITCH
R561▲	1-206-439-00	METAL	1 5% 2W F		S103	1-516-576-00	SLIDE SWITCH
R563	1-246-458-00	CARBON	240 5% 1/4W				*****
R564	1-246-473-00	CARBON	1K 5% 1/4W		▲:1-608-457-00	Z BOARD	*****
R565	1-246-465-00	CARBON	470 5% 1/4W				
R566▲	1-212-357-61	METAL	0.56 5% 1W F				
R601▲	1-246-521-00	CARBON	100K 5% 1/4W				
R602▲	1-206-477-00	METAL	39 5% 2W F				
R603	1-246-497-00	CARBON	10K 5% 1/4W				
R604	1-246-467-00	CARBON	560 5% 1/4W				<u>CAPACITOR</u>
R605	1-246-473-00	CARBON	1K 5% 1/4W		C812	1-123-356-00	ELECT 10MF 20% 16V
R606	1-246-497-00	CARBON	10K 5% 1/4W				<u>DIODE</u>
R607	1-246-489-00	CARBON	4.7K 5% 1/4W		D804▲	8-719-300-74	DIODE RH1
☒ R608▲		CARBON	1/4W				
R610▲	1-246-461-00	CARBON	330 5% 1/4W				<u>TRANSISTOR</u>
R801▲	1-212-356-00	METAL	0.47 5% 1W F		Q802▲	8-729-137-32	TRANSISTOR 2SC2373
R803	1-244-873-00	CARBON	1K 5% 1/2W				
R804	1-244-873-00	CARBON	1K 5% 1/2W				<u>RESISTOR</u>
R806	1-246-534-00	CARBON	360K 5% 1/4W		R802▲	1-206-497-61	METAL 2.7 5% 3W F
R807	1-246-534-00	CARBON	360K 5% 1/4W		R808	1-246-467-00	CARBON 560 5% 1/4W
R901	1-202-565-00	COMPOSITION	470 5% 1/4W		R809	1-246-473-00	CARBON 1K 5% 1/4W
<u>VARIABLE RESISTOR</u>							
RV551	1-226-100-00	RES, ADJ, CARBON	10K				
RV552	1-224-965-00	RES, ADJ, CARBON	470				
RV601	1-226-819-00	RES, ADJ, CARBON	1K				
RV801	1-226-263-00	RES, ADJ, CARBON	2.2M				
RV802	1-224-551-00	RES, ADJ, CARBON	220K				
<u>SWITCH</u>							
S801	1-552-897-00	SWITCH, LEVER					

When indicating parts by reference number, please include the board name.

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Z

<u>Ref.No</u>	<u>Part No</u>	<u>Description</u>	<u>Remark</u>
S802	1-552-897-00	SWITCH, LEVER	

MISCELLANEOUS			

	▲.1-534-820-XX	POWER CORD	
	1-536-392-XX	L-TYPE TERMINAL STRIP	
	1-561-167-00	CONNECTOR	
	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
L901	▲.1-451-216-21	DEFLECTION YOKE H,V	
NL901	▲.1-519-108-XX	NEON LAMP ASSY	
S901	▲.1-553-330-00	SWITCH, PUSH (POWER)	
T901	▲.1-447-427-00	TRANSFORMER, POWER: PT	
V901	▲.1-546-046-00	CATHODE-RAY TUBE (B/W)	

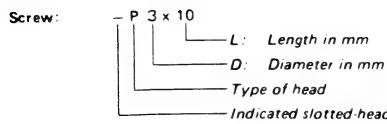
ACCESSORIES AND PACKING MATERIALS			

	4-493-695-11	MANUAL, INSTRUCTION	
	3-701-629-00	BAG, POLYETHYLENE	
	4-027-221-00	CUSHION	
	4-027-222-00	INDIVIDUAL CARTON	
	4-309-407-00	BAG, POLYETHYLENE	

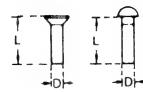
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The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE



Indicated slotted-head only.
Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SP0522

PVM-91CE

SONY®
SERVICE MANUAL

AEP Model
Serial No: 25201 and later

SUPPLEMENT - 1

File this supplement with the service manual.

INTRODUCTION

1. The CRT and TRANSFORMER POWER will be changed to new parts.



MICROFILM

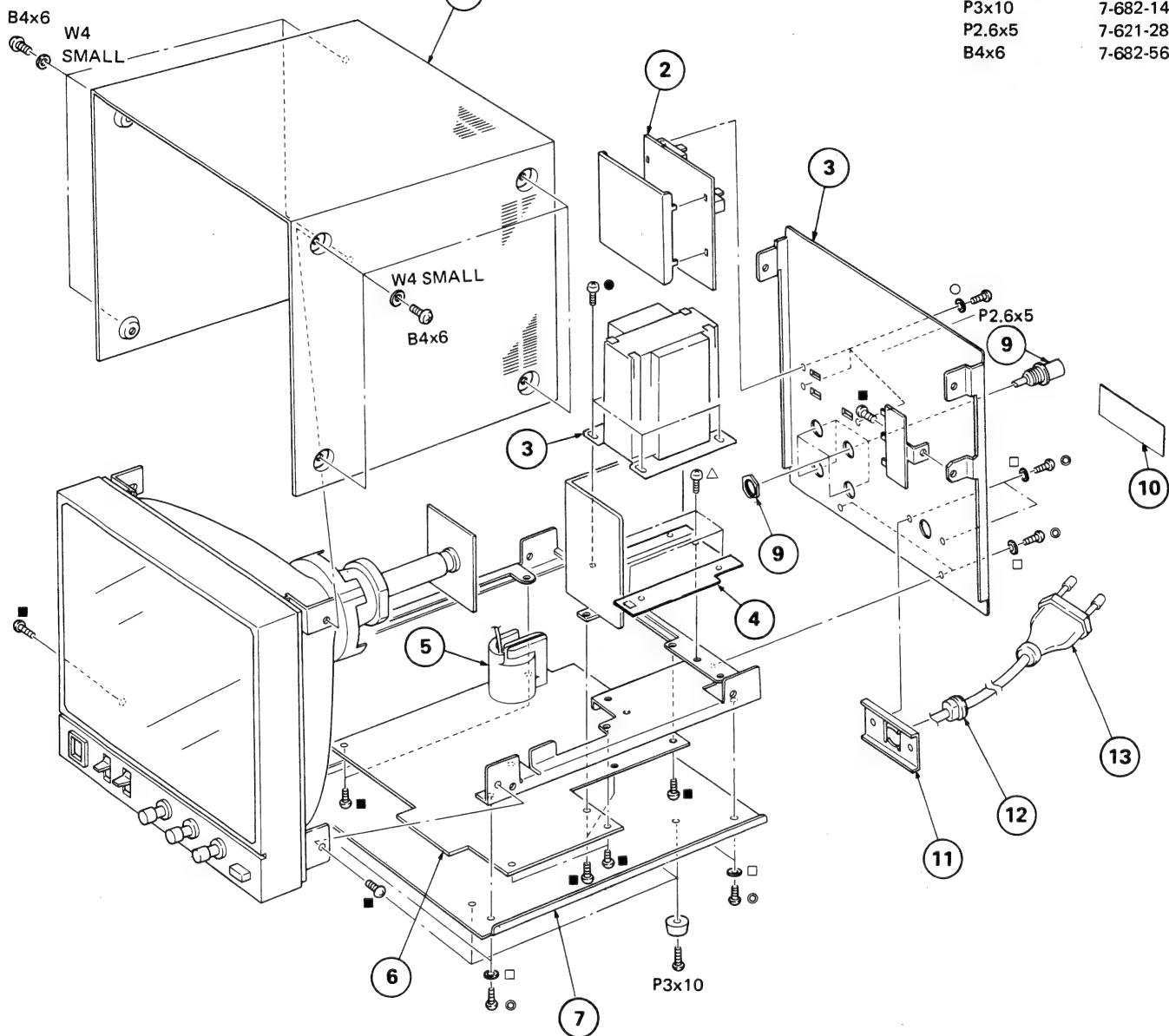
5. EXPLODED VIEWS

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
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- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

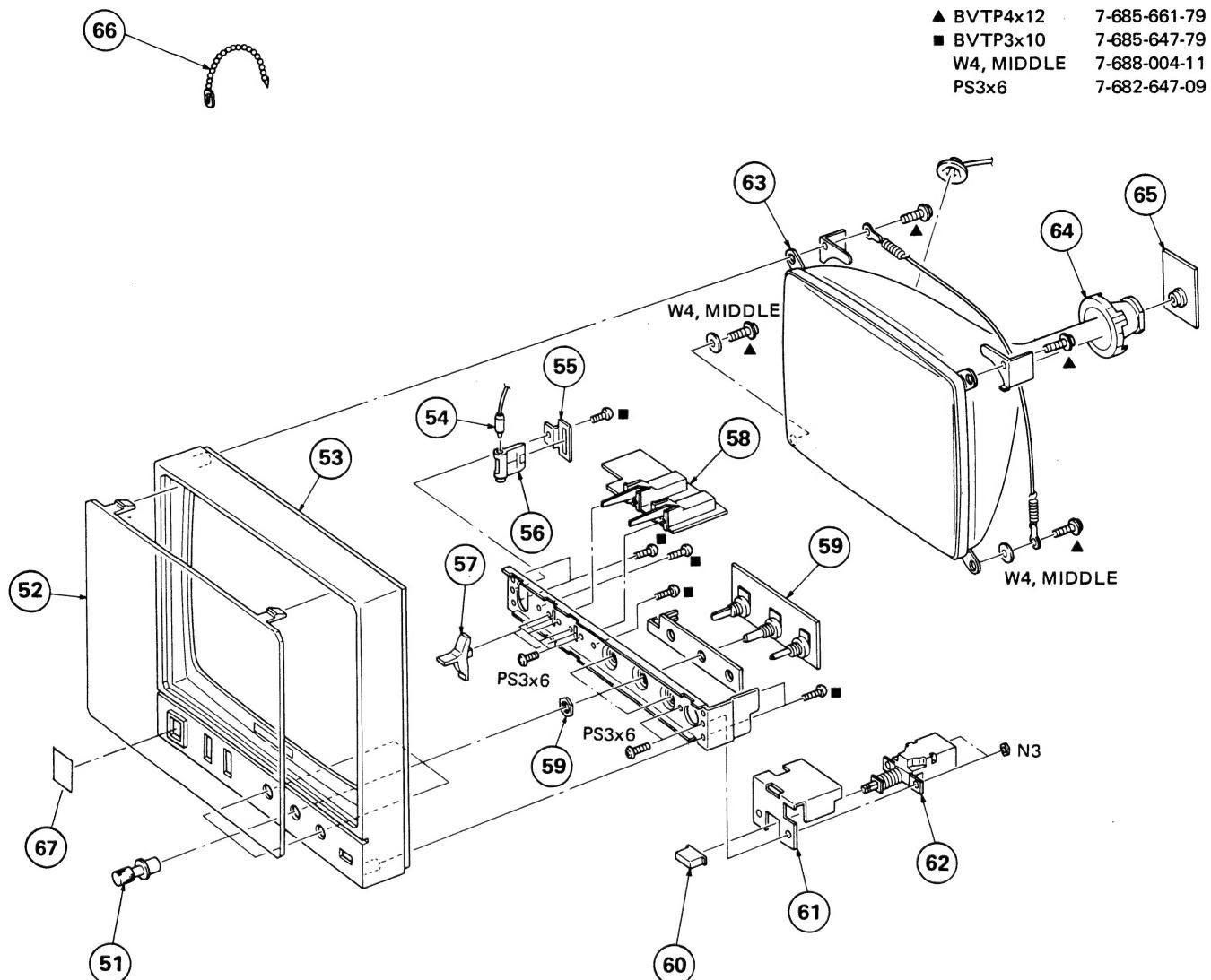
1. CABINET



● BVTP4x10	7-685-660-14
○ W2.6, SMALL	7-688-002-02
△ BVTP4x8	7-685-659-79
■ BVTP3x10	7-685-647-79
□ W3, SMALL	7-688-003-02
○ P3x6	7-682-147-09
W4, SMALL	7-688-004-02
P3x10	7-682-149-01
P2.6x5	7-621-284-10
B4x6	7-682-560-09

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	4-027-217-00	CABINET		8	4-027-214-00	PANEL, REAR	
2	*1-608-456-11	J BOARD		9	1-561-167-00	CONNECTOR	
3	▲ 1-449-357-11	TRANSFORMER, POWER		10	*4-027-219-00	LABEL, MODEL NUMBER (LARGE)	
4	4-027-226-01	BRACKET, TRANSFORMER		11	*4-025-821-00	HOLDER, BUSHING (CE)	
5	1-439-298-00	TRANSFORMER ASSY, FLYBACK		12	▲ 3-005-073-00	STOPPER, CORD	
6	*A-1340-485-A	MOUNTED PCB, D		13	▲ 1-534-820-XX	POWER CORD	
7	*4-027-213-00	PLATE, BOTTOM					

2. BEZEL



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	X-4316-209-0	KNOB ASSY, CONTROL		60	4-335-962-00	PUSH BUTTON	
52	4-027-212-00	FILTER		61	*4-027-218-00	BARRIER	
53	X-4027-202-1	BEZEL ASSY		62	▲ 1-553-330-21	SWITCH, PUSH (POWER)	
54	▲ 1-519-108-XX	NEON LAMP ASSY		63	▲.1-546-048-11	CATHODE-RAY TUBE (B/W) E2733B4	
55	*4-308-211-00	HOLDER, NEON LAMP		64	▲ 1-451-216-21	DEFLECTION YOKE	
56	*4-027-202-00	HOLDER, LAMP		65	*1-608-454-11	C BOARD	
57	4-335-954-02	KNOB (2P), LEVER SWITCH		66	4-308-870-00	CLIP, LEAD WIRE	
58	*1-608-457-11	Z BOARD		67	4-340-203-00	PLATE, NUMBER	
59	*1-608-455-11	H BOARD					

25201-0500JW

PVM-91CE

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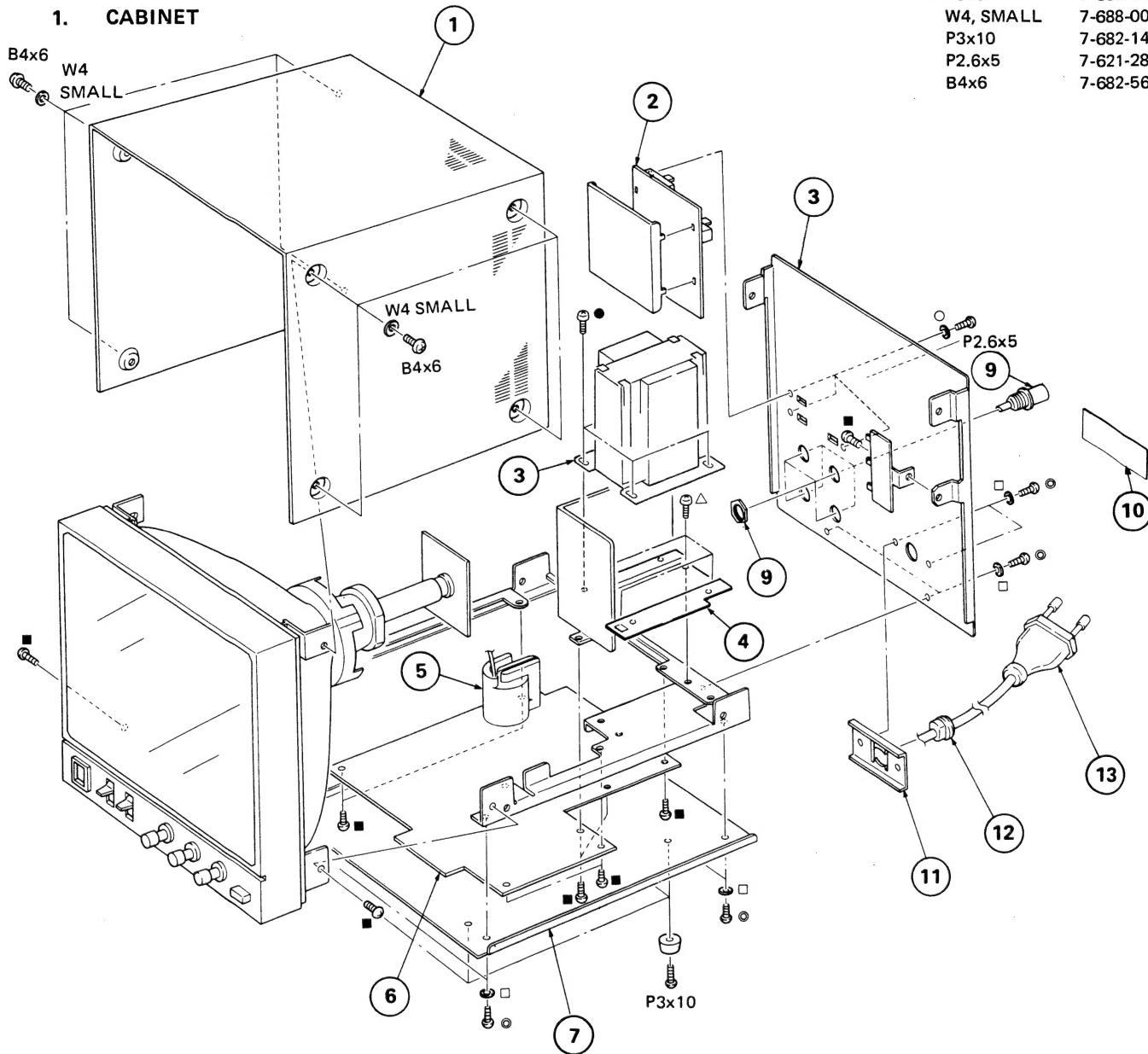
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- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

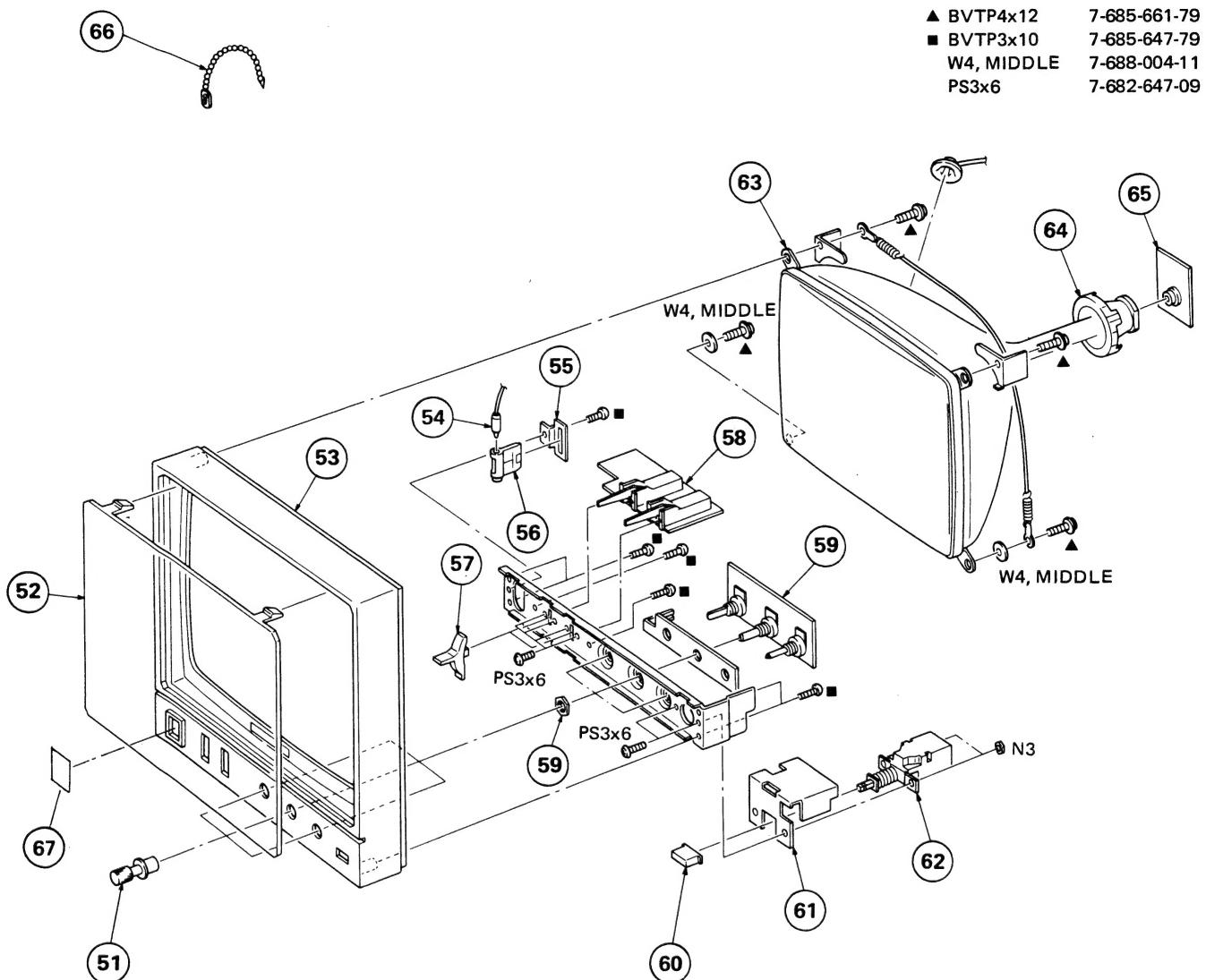
1. CABINET



● BVT4x10	7-685-660-14
○ W2.6, SMALL	7-688-002-02
△ BVT4x8	7-685-659-79
■ BVT3x10	7-685-647-79
□ W3, SMALL	7-688-003-02
● P3x6	7-682-147-09
W4, SMALL	7-688-004-02
P3x10	7-682-149-01
P2.6x5	7-621-284-10
B4x6	7-682-560-09

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	4-027-217-00	CABINET		8	4-027-214-00	PANEL, REAR	
2	*1-608-456-11	J BOARD		9	1-561-167-00	CONNECTOR	
3	△ 1-449-357-11	TRANSFORMER, POWER		10	*4-027-219-00	LABEL, MODEL NUMBER (LARGE)	
4	4-027-226-01	BRACKET, TRANSFORMER		11	*4-025-821-00	HOLDER, BUSHING (CE)	
5	1-439-298-00	TRANSFORMER ASSY, FLYBACK		12	△ 3-005-073-00	STOPPER, CORD	
6	*A-1340-485-A	MOUNTED PCB, D		13	△ 1-534-820-XX	POWER CORD	
7	*4-027-213-00	PLATE, BOTTOM					

2. BEZEL



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	X-4316-209-0	KNOB ASSY, CONTROL		60	4-335-962-00	PUSH BUTTON	
52	4-027-212-00	FILTER		61	*4-027-218-00	BARRIER	
53	X-4027-202-1	BEZEL ASSY		62	▲ 1-553-330-21	SWITCH, PUSH (POWER)	
54	▲ 1-519-108-XX	NEON LAMP ASSY		63	▲ 1-546-048-11	CATHODE-RAY TUBE (B/W) E2733B4	
55	*4-308-211-00	HOLDER, NEON LAMP		64	▲ 1-451-216-21	DEFLECTION YOKE	
56	*4-027-202-00	HOLDER, LAMP		65	*1-608-454-11	C BOARD	
57	4-335-954-02	KNOB (2P), LEVER SWITCH		66	4-308-870-00	CLIP, LEAD WIRE	
58	*1-608-457-11	Z BOARD		67	4-340-203-00	PLATE, NUMBER	
59	*1-608-455-11	H BOARD					